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CyberData SIP Paging Ceiling Speaker V2 Integration with Zultys MX

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This document covers the integration of CyberData's SIP Paging Speaker V2 with the Zultys MX. This document was written for MX Version 11.0 and the following CyberData Products

- 011099C SPEAKER,V2,VoIP INDOOR PAGING,CEILING/WALL MOUNT V6.5.5

All support and supporting documentation for CyberData should be obtained from CyberData itself. This document assumes the reader is at least a Zultys Certified Systems Expert (ZCSE), and is familiar with creating Users, Devices, and Paging (both SIP based and Multicast based) in general. This document also assumes the reader is familiar with setting up CyberData Paging equipment and/or has access to the Manuals for the CyberData equipment, as several sections are left out of this manual such as setting up the network configuration of the CyberData Equipment and pin outs for relay, and audio out usage.

For more information on the integration process see integration section.

1 Contents

2   Integration

CyberData SIP Paging Speaker can be integrated in multiple ways with the Zultys MX, each integration option has its unique benefits and draw backs. For the best integration between all types of phones (Polycom, Zultys, and other 3rd party devices) as well as routing and remote devices Zultys recommends SIP Page.

2.1   SIP Page

When integrating the Zultys MX with the CyberData SIP Ceiling Speakers, Zultys recommends to integrate the CyberData Paging Speaker into the existing paging functions of the MX. This will afford the possibility to integrate the ZIP2, ZIP3, ZIP5, Polycom and other 3rd party equipment along with the CyberData Paging equipment. Following this method of integration, all devices will be integrated using the traditional SIP Paging methods used by the MX. If using multiple paging speakers, each speaker will need to be added to the MX Page Zone.

Traditional paging equipment can be integrated into this solution using CyberData SIP Paging Speaker's Audio Out and Relays.

Users will simply dial the page server on the MX select the proper zone, and make their page. A SIP call will be placed to each device in the paging group. A maximum of 32 devices on a MX250 and 16 devices on a MX30 can be added to the page group.

2.2   Pure Multicast

When using CyberData paging equipment you can integrate as a pure multicast solution, in that you will no longer use the paging services of the MX, and rely purely on Multicast capabilities of the ZIP5, ZIP3 and CyberData equipment. When using CyberData's SIP Paging Speaker you may either dedicate a unique paging button on

the phone per page zone. The ZIP5 and ZIP3 phones only support listening to 5 multicast paging zones.

Traditional paging equipment can be integrated into this solution using CyberData SIP Paging Speaker's Audio Out and Relays.

Users will press a predefined paging button on the ZIP5 and ZIP3 devices to initiate the page, this will start a multicast from the device to all other devices listening to the same multicast IP address and Port pair. ZIP2 and Polycom phones cannot be part of a multicast page.

2.3 Traditional Paging Equipment
Traditional Paging equipment can be integrated into either integration option (SIP or Multicast) by either the MX or CyberData SIP Paging Speaker. It is recommended to use the CyberData SIP Paging Speaker to integrate with traditional paging equipment due to CyberData Paging Speaker (V2) offers a 10K Ohm output at 2VPP output and offers the ability to include dry relays, where the MX output is line out and does not offer relay capability.

If integrating multiple locations with traditional paging equipment it is recommended to use the CyberData Paging Adapter to integrate additional locations using SIP paging from the MX, and the CyberData Paging Adapter to integrate to the traditional paging equipment.

2.4 Including Ceiling Speakers
When integrating Ceiling speakers, you may use traditional paging equipment, or it is recommended to use additional CyberData Ceiling Speakers.

3 Multicast Paging

3.1 How Multicast Paging Works
After a user presses a configured "Paging" key on the phone, the phone sends a page message (which is an RTP stream, hereinafter referred to as a "page") to a preconfigured multicast address. Any device in the local network listens for the page on the preconfigured multicast address. The device will display the multicast page sent/received address to the user. You can define multiple multicast zones by using a different multicast IP or port number, a single device can listen to multiple IP:Port combinations.

The device uses G711 uLaw CODEC for multicast paging.

The recipient can drop the incoming page if required. The recipient can also press Do Not Disturb (DND) or other "ignore" options on the device to ignore/reject any incoming pages.

3.2 Caveats of Multicast Paging

Multicast paging is designed for ZIP5/ZIP3 phones only. There is no guaranteed interoperability with any other Zultys-supported phones. CyberData Paging Equipment is an exception, as it has been tested and certified to work properly with the ZIP5/ZIP3 phones. The ZIP2xN phones and MXIE Softphone does not support multicast paging. The 57iCT cordless handset cannot initiate a multicast page.

This service is typically non-routable, and cannot be used to page across the MXnetwork or to remote devices.

Note: The Group Paging Settings are dependent on the setting for the "Allow Barge In" parameter.

Note: Multicast page is one-way only - from sender to the receiver.

Note: For outgoing pages, all other existing calls on the phone are put on hold.

For incoming pages, the ringing display is dependent on the "Allow Barge In" parameter. If this parameter is disabled, and there is no other call on the phone, then the paging is automatically played via the preferred audio device.

If there is an existing call on the phone, the call initially displays in the ringing state. The user has the option to accept/ignore the call. If the "Allow Barge In" parameter is enabled, the page call barges in, and any existing calls are put on hold.

If a page session already exists on the phone, and the phone receives another incoming page, the priority is given to the first multicast session and the second multicast session is ignored. The behavior for the incoming calls in this case is also based on the setting for the "Allow Barge In" parameter. The incoming call is handled as if there were an existing call already on the phone.

3.3 Advantages of Multicast Paging

Multicast paging allows for virtually unlimited paging capability in a local network, does not require a session license to operate, and is almost instantaneous, as it does not require the phones to acknowledge the page request.

Multicast paging is a certified option to increase the number of devices in a page zone from 32 devices for an MX250 and 16 devices for an MX30 to a virtually unlimited number.

4 SIP Paging

4.1 How SIP Paging Works

SIP paging works as follows: the MX places a SIP call to the device with an auto answer flag if the device is a ZIP5, ZIP3 or a Polycom device (other device types must be specifically configured to answer pages automatically, but will not receive the auto answer flag), once all devices have answered the call, the page is made to these

devices. The Cyber Data Paging Speaker may also be included in this paging group when properly configured for auto answer, and DTMF zone selection is disabled.

4.2 Caveats of SIP Paging

- SIP paging is limited to 32 devices on a MX250 and 16 devices on an MX30.
- Session License is required.
- SBC Licenses are required if SIP paging is used with Remote phone(s).
- Dependent on an answer and acknowledgement from all devices before the page can be made

4.3 Advantages of SIP Paging

- Works with remote devices.
- Works with the entire ZIP product line with no exceptions.
- Works with Polycom devices.
- Works with MXIE Softphone.
- SIP Paging is routable.

5 Creating a Generic SIP Device on the MX for night ring capabilities

If using the night ring capabilities of the SIP Page Speaker, a generic SIP device and a user is required to be created on the MX. For basic operation a Generic SIP device is created on the MX and assigned to a user. The CyberData equipment will register as this Generic SIP Device, this device is then invited by the MX when the extension is called triggering the night ring capabilities of the CyberData equipment. If you are not using the night ringer functionality, this section should be skipped.

5.1 Create Generic SIP Profile

In order to create a Generic SIP Device, it is recommended to create a unique Generic SIP Device Profile to control the codecs, functions and number of lines used by CyberData Equipment, this device profile should be the same profile used with the paging device.

Make sure that the following options are selected.

Sends SIP Register: Checked.

Supports SIP based configuration: Checked.
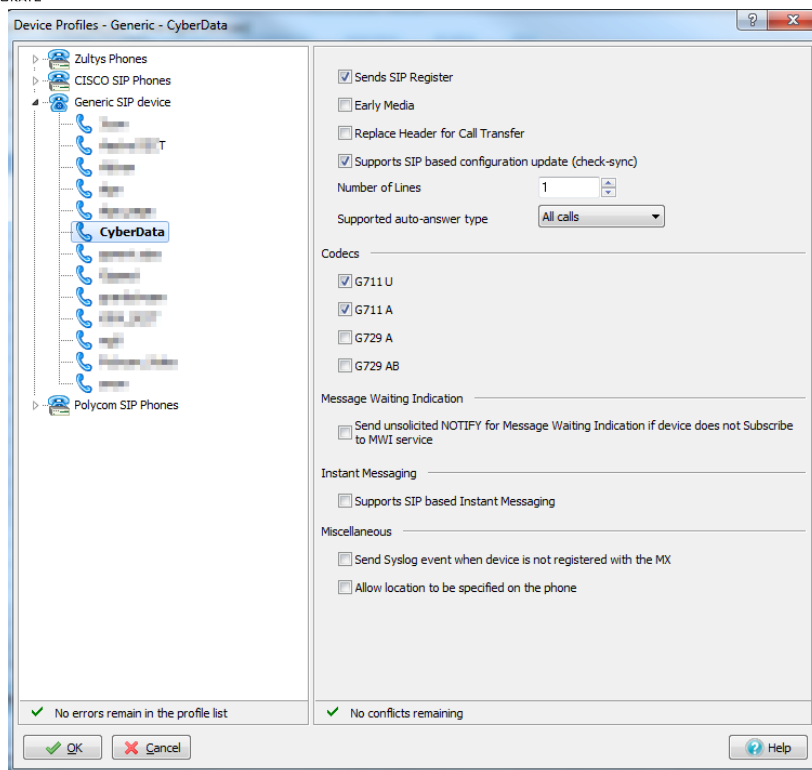
Number of Lines: 1.

Supported auto-answer type: All Calls.

Codecs: G711U and G711A.

Send unsolicited NOTIFY for messages: Unchecked.

Send Syslog event when device is not registered..: This is an optional selection that is recommended to allow the MX to generate a syslog notification if the paging equipment is off line

The remaining options are unchecked.

5.2 Create Generic SIP Device

Create a generic SIP device on the MX for the MX to integrate with CyberData Equipment. The CyberData equipment will register with the MX using this Generic SIP Device.
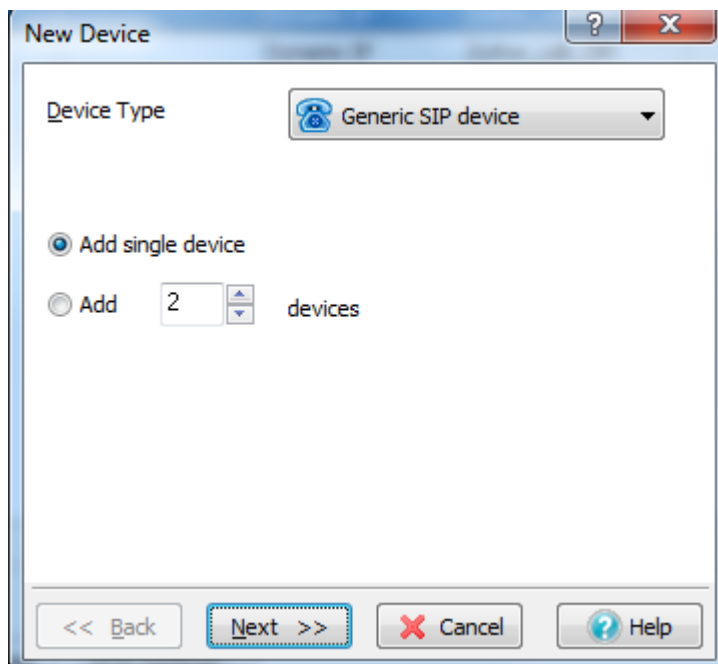
Make sure that the following options are selected.

Device Type: Generic SIP device.

Add Single Device: Selected.

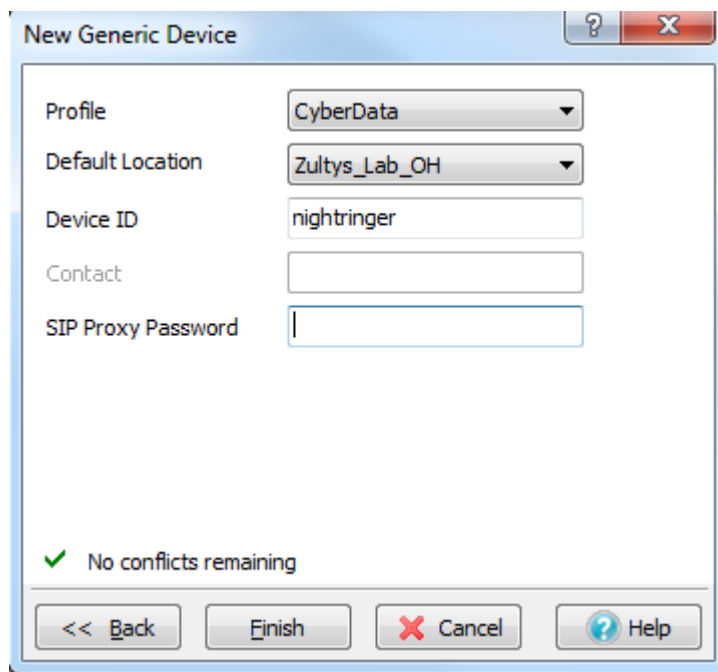Click *Next* to proceed to the next screen.

Profile: Select the Generic SIP Device Profile created in section 5.1.

Default Location: Select the proper location from the drop-down.

Device ID: Type the ID to register CyberData Equipment Ringing extension.

Contact: Not used.

SIP Proxy Password: Type the password if required.

5.3   Create User and Assign User to the Device

After creating the device that will interface with CyberData Equipment, create a user and assign the user to this device. This document assumes the reader is a ZCSE trained and a certified technician. Since this process is covered by ZCSE training, it is considered to be outside the scope of this document.

6 Creating a Generic SIP Device on the MX for paging capabilities

When using the CyberData SIP Paging Speaker for paging capabilities, Zultys recommends creating a Generic SIP Device and a user for the CyberData Paging equipment. Only a single device and User is required for paging purposes only, the Night Ringer will require its own separate user and device. The Paging features of the CyberData Equipment interfaces with the MX system through a preconfigured MX user. A single user / device will interface with the MX for paging purposes. To initiate a paging message over CyberData Paging Equipment, place a call to this user / device combination to start the paging process. This same user can be included in the MX's standard page groups. If you are using the pure multicast implementation, this section should be skipped.

6.1 Create Generic SIP Profile

In order to create a Generic SIP Device, it is recommended to create a unique Generic SIP Device Profile to control the codecs, functions and number of lines used by CyberData Equipment, this device profile should be the same profile used with the night ring device.

Make sure that the following options are selected.

Sends SIP Register: Checked.
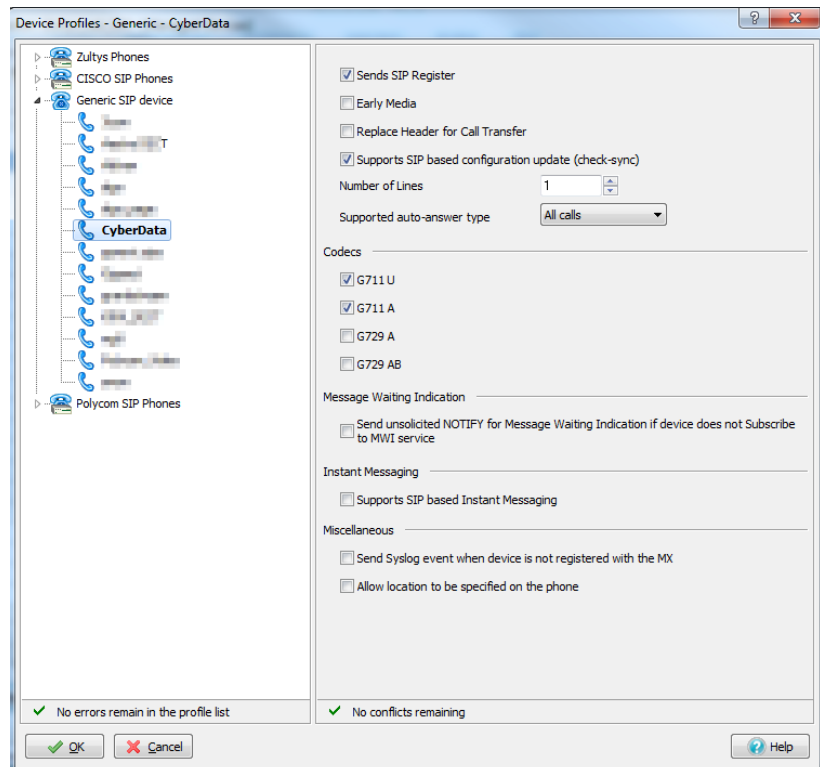
Supports SIP based configuration: Checked.

Number of Lines: 1.

Supported auto-answer type: All Calls.

Codecs: G711U and G711A.

Send unsolicited NOTIFY for messages: Checked.

Send Syslog event when device is not registered..: This is an optional selection that is recommended to allow the MX to generate a syslog notification if the

paging equipment is off
line

The remaining options are
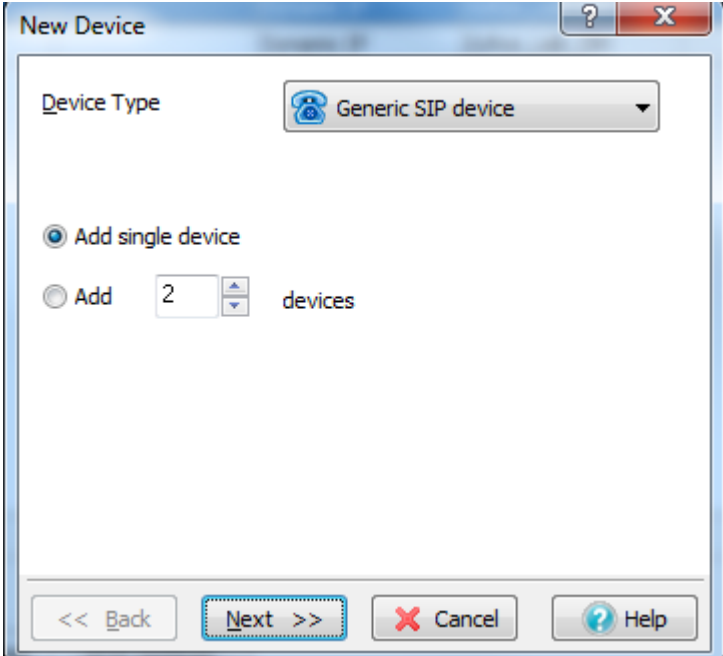unchecked.

6.2 Create Generic SIP Device

Create a generic SIP device on the MX for the MX to integrate with CyberData
Equipment.

Make sure that the following options are selected.

Device Type: Generic SIP
device.

Add Single Device:
Selected.

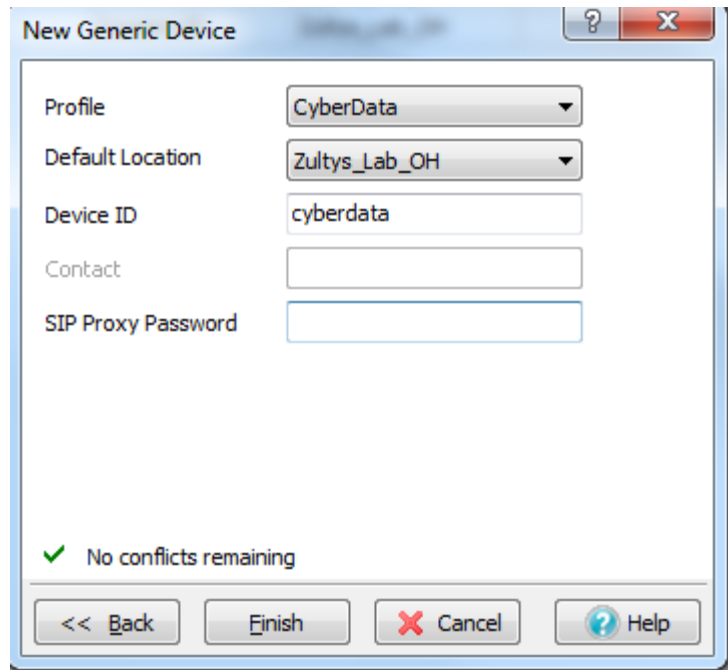Click *Next* to proceed to
the next screen.

Profile: Select the Generic SIP Device Profile created in section 6.1.

Default Location: Select the proper location from the drop-down.

Device ID: Type the ID to register CyberData Paging extension.

Contact: Not used.

SIP Proxy Password: Type the password if required.

New Generic Device	
Profile	CyberData
Default Location	Zultys_Lab_OH
Device ID	cyberdata
Contact	
SIP Proxy Password	

✔ No conflicts remaining

<< Back   Finish   ✖ Cancel   ❓ Help

6.3   Create User and Assign User to the Device

After creating the device that will interface with CyberData Paging Equipment, create a user and assign the user to this device. This document assumes the reader is a ZCSE trained and a certified technician. Since this process is covered by ZCSE training, it is considered to be outside the scope of this document. Note that you need to create and assign a paging profile to the user if they will be using SIP paging.

7   MX Paging Server and User Configuration

This section is only used if you are integrating the CyberData SIP Paging Speaker with the MX Page Server. If you are using the pure multicast implementation, this section should be skipped.

7.1   Create MX Paging Groups

In the MX Administrator under Configure | Phone Services on the Paging Groups tab create the Paging Group. Analog Port should not be checked as any traditional paging equipment will be integrated to the CyberData SIP Paging Speaker itself.

Auto Attendants	Paging Groups	Servers	Group Pickup	Conference	Voice.Mixer

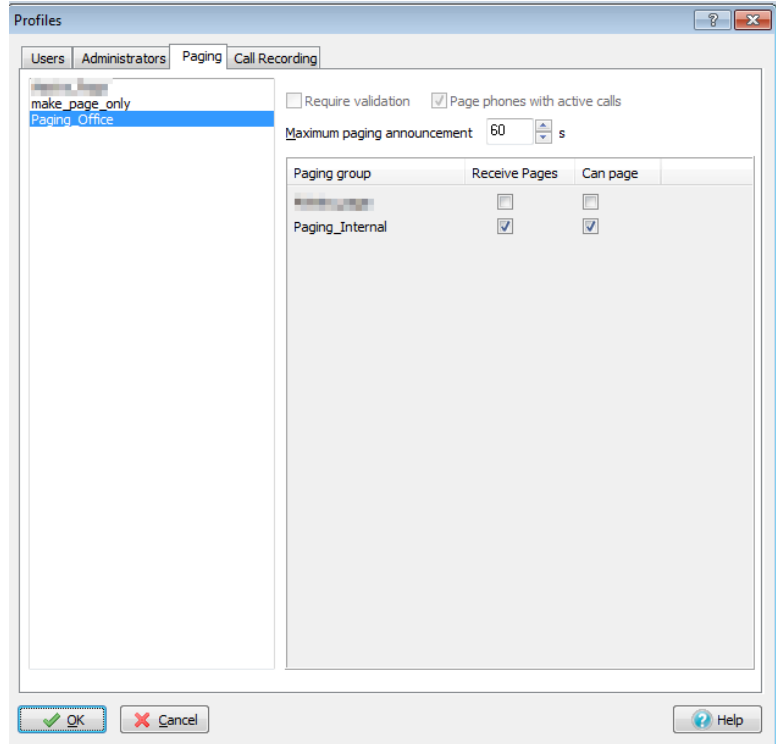| Name	Group	Prompt	Analog Port
Paging_Internal	01	☑	☐
	02	☑	☐

7.2 MX User Configuration for Paging User

In the MX Administrator under Configure | Users. Click on Profiles and create a new paging profile as indicated below, then assign this profiles to the paging server user by right clicking a single user and selecting "Edit User".

Select the appropriate Paging Profile and Paging Group.

Receive Pages: Checked

Can Page: Checked

Assign the paging Profile created above to the Paging User created.

From this same screen you can assign the paging device created in section 6 to this user

7.3 Configure all other users to be allowed to make pages

For users using ZIP2, ZIP3, ZIP5 and Polycom devices to be allowed to make a page, they must be a member of a paging profile that allows them to make and receive a page.

Select the appropriate Paging Profile and Paging Group.

Receive Pages: Unchecked

Can Page: Checked

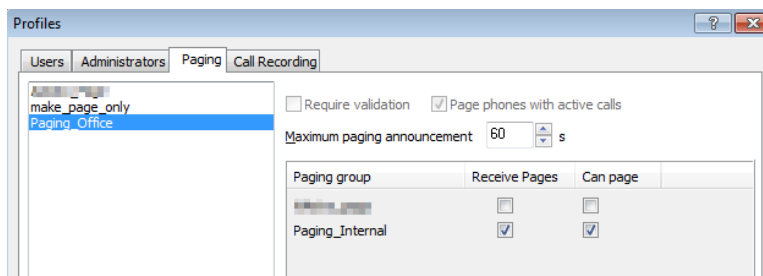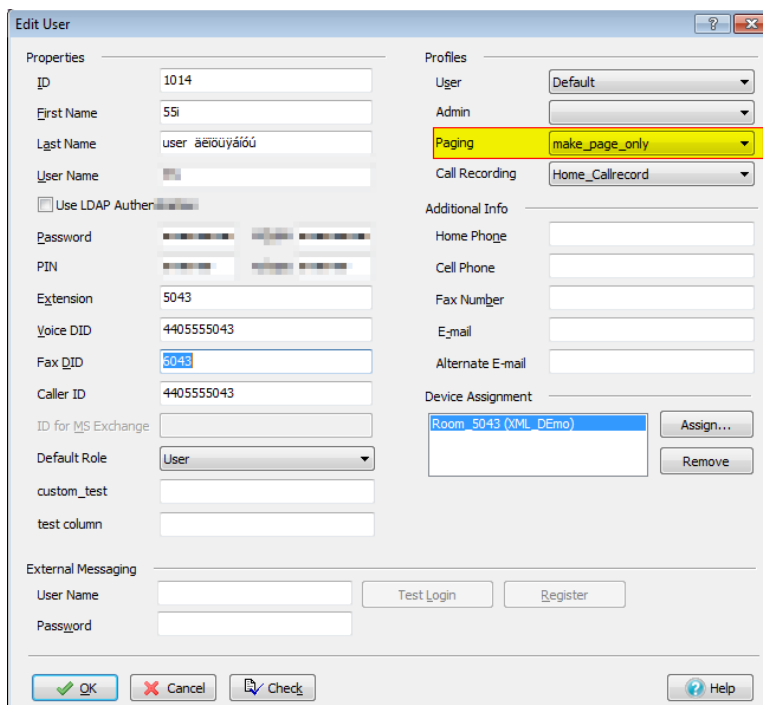Assign the paging Profile created above to the Paging User created.

Edit User

Properties

ID	1014
First Name	55i
Last Name	user äëïöüÿáíóú
User Name	
☐ Use LDAP Authen	
Password	
PIN	
Extension	5043
Voice DID	4405555043
Fax DID	5043
Caller ID	4405555043
ID for MS Exchange	
Default Role	User
custom_test	
test column	

Profiles

User	Default
Admin	
Paging	make_page_only
Call Recording	Home_Callrecord

Additional Info

Home Phone	
Cell Phone	
Fax Number	
E-mail	
Alternate E-mail	

Device Assignment

Room_5043 (XML_DEmo)   [Assign...] [Remove]

External Messaging

User Name	
Password	

[Test Login] [Register]

[✓ OK] [✗ Cancel] [Check]   [Help]

8 CyberData SIP Paging Speaker Setup

When deploying the CyberData SIP Paging Speaker it is recommended to use DHCP. CyberData provides a "Discovery Utility" that can be downloaded from their website (http://www.cyberdata.net/support/voip/discovery_utility.html) to initially discover the IP address of the SIP Paging Speaker, once configured to register with the Zultys MX, the IP address can be found using the MX's device status screen in the MXAdministrator UI. Using the CyberData Discovery Utility to obtain the current IP address of the CyberData SIP Paging Speaker login using a web browser using the default username of "**admin**" and the default of "**admin**". For more information on using the discovery utility and basic setup of the CyberData equipment, please refer to the operating manuals from CyberData. If using the pure multicast integration option, the CyberData equipment will not be registering with the MX, and it is suggested to set static IPs to all CyberData equipment, or use the "Discover Utility" to identify the IP addresses assigned to the CyberData Equipment for future administration.

8.1 Home Screen

After loging into the CyberData SIP Paging Speaker using your favorite browser you are immediately taken to the Home Screen which will display the following information

On the Left side you will find your navigation options,

Device Name: Shows the device name (25 character limit). If using multiple paging speakers, please provide a unique name for each speaker. This name should reference the physical location of the device for future administration purposes.

Change Username: Type in this field to change the username (25 character limit).

- Default: **admin**

**Change Password**: Type in this field to change the password (19 character limit).

- Default: **admin**

Re-enter Password: Type the password again in this field to confirm the new password (19 character limit).

Current Settings:

Provides you with the current IP addressing of the device, Mac address and serial number.

The home screen will also show the current registration status, and features enabled on the CyberData SIP Paging Speaker.

`Save` Click on the Save button to save your configuration settings.

⚠ **Note**: You need to reboot for changes to take effect.

`Reboot` Click on the Reboot button to reboot the system.

8.2   Device Configuration
On the device configuration screen, you can configure several default options for the paging speaker.

Use Digital Volume Control: Unchecked

Speaker Volume: 4

Volume Boot: Unchecked

Activate Relay with DTMF code: Unchecked

DTMF Activation Code: 321

DTMF Activation Duration: 2

Activate Relay during Ring: Unchecked, unless there is a need for the use of these relays. This will activate the relay while the paging extension is ringing, auto answer incoming calls must be disabled.

Activate Relay During Night Ring: Unchecked, unless there is a need for the use of these relays. This will activate the relay while the night ring extension is ringing, auto answer incoming calls must be disabled.

Activate Relay During Call Active: Unchecked, unless there is a need for the use of these relays. This will allow the page audio to be passed through.

Beep on Initialization: Checked

[Save] Click on the Save button to save your configuration settings.

⚠ **Note**: You need to reboot for changes to take effect.

[Reboot] Click on the Reboot button to reboot the system.

8.3 SIP Configuration

SIP configuration screen is used to configure the SIP registration parameters used by the CyberData SIP Page Speaker to register with the MX for paging purposes. The SIP User ID and Authentication ID are the same values which is the Device ID created in the MX in section 6 and assigned to the user created in section 6. Authentication Password is only used if a SIP Proxy Password is required by the Generic SIP Device created in

the MX. If you are using the pure multicast integration method, this section may be skipped.

If using MXNetwork with Redundancy it is suggested to add the redundant node to the backup SIP server of the CyberData Paging Speaker, this way in a failover situation the paging equipment will continue to function with no intervention.

Enable SIP Operation: Checked

SIP Server: IP or FQDN of the MX

Backup SIP Server 1: Only Used if using MXNetwork with failover, then will be the IP address or FQDN of the failover node. Will dual register with the MXNetwork Node

Backup SIP Server 2: Not Used

Remote SIP Port: 5060

Local SIP Port: 5060

Outbound Proxy: must be left blank

Outbound Proxy Port: 0

SIP User ID: The Device ID created on the MX in Section 6

Authentication ID: Same as User ID

Authentication Password: the SIP Proxy Password for the Device ID created in section 6 (if required)

Register with a SIP Server: Checked

Re-registration Interval: 3600

Unregister on Reboot: Unchecked

⚠ **Note**: if checked will create an issue on registration, and the device will fail to register.

Buffer SIP Calls: Optional, if checked the CyberData SIP Speaker will buffer the page, and once the call is disconnected, it will make the page.

Enable SIP operation: ☑	
SIP Settings	
SIP Server:	192.168.1.1
Backup SIP Server 1:	192.168.15.150
Backup SIP Server 2:	
Remote SIP Port:	5060
Local SIP Port:	5060
Outbound Proxy:	
Outbound Proxy Port:	0
SIP User ID:	cyberspeaker
Authenticate ID:	cyberspeaker
Authenticate Password:	zultys
Register with a SIP Server:	☑
Re-registration Interval (in seconds):	3600
Unregister on Reboot:	☐
Buffer SIP Calls:	☐
Beep on page:	☑
Call disconnection	
Terminate call after delay (in seconds):	0
Note: A value of 0 will disable this function	

Beep on Page: Play audible beep prior to relaying the page

RTP Port (even): 20000

Save Click on the Save button to save your configuration settings.

⚠️ **Note**: You need to reboot for changes to take effect.

Reboot Click on the Reboot button to reboot the system.

RTP Settings	
RTP Port (even):	20000

* You need to reboot for changes to take effect

Save Reboot

8.4 Nightringer Configuration

Nightringer configuration screen is used to configure the SIP registration parameters used by the CyberData SIP Page Speaker to register with the MX for Night Bell or Nightringer purposes. The SIP User ID and Authentication ID are the same values which is the Device ID created in the MX in section 5 and assigned to the user created in section 5. Authentication Password is only used if a SIP Proxy Password is required by the Generic SIP Device created in the MX. If you are not using the Night Ringer capabilities of the CyberData Equipment, this section may be skipped.

Enable Nightringer: Checked

SIP Server: IP or FQDN of the MX

Remote SIP Port: 5060

Local SIP Port: 5061, must be Port 5061

User ID: the Device ID created on the MX in Section 5

Authentication ID: Same as User ID

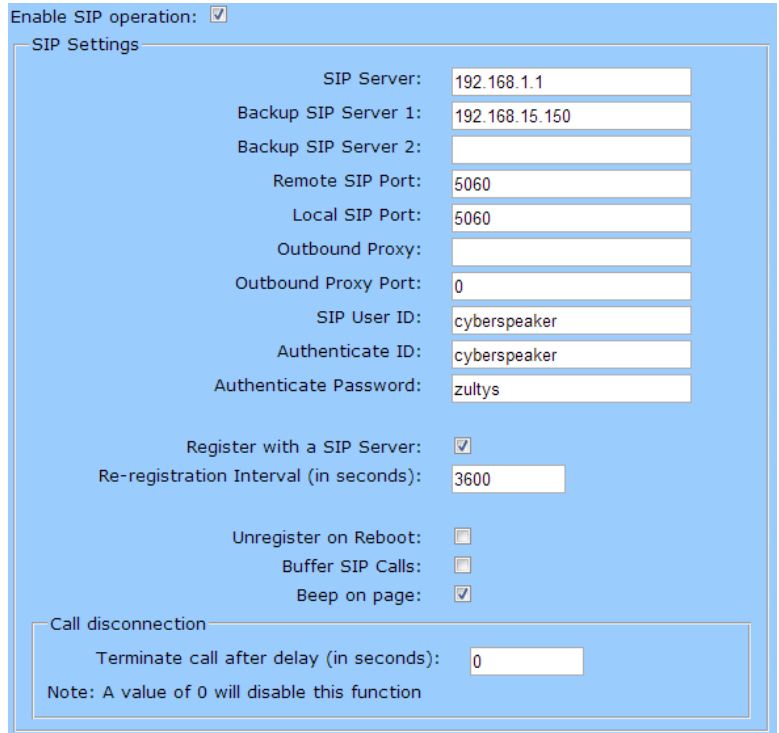**Authentication Password**: the SIP Proxy Password for the Device ID created in section 5(if required)

Re-registration Interval: 3600

Nightringer Configuration

Enable Nightringer: ☑ (Registered with SIP Server)

Nightringer Settings	
SIP Server:	172.16.12.251
Remote SIP Port:	5060
Local SIP Port:	5061
Outbound Proxy:	
Outbound Proxy Port:	0
User ID:	
Authenticate ID:	
Authenticate Password:	●●●●●●
Re-registration Interval (in seconds):	3600

* You need to reboot for changes to take effect

Save Click on the Save button to save your configuration settings.

* You need to reboot for changes to take effect

Save Reboot

⚠️ **Note**: You need to reboot for changes to take effect.

[Reboot] Click on the Reboot button to reboot the system.

8.5 Multicast Configuration

Multicast Configuration is used to create multiple zones that the CyberData SIP Paging Speaker will listen to and relay pages that are received, configure each multicast zone to match the multicast configuration on the CyberData SIP Paging Speaker. If you are deploying a pure SIP integration this section may be skipped.

When playing multicast streams, audio on different streams will preempt each other according to their priority in the list. An audio stream with a higher priority will interrupt a stream with a lower priority.

If both SIP and Multicast is enabled, SIP audio streams are considered priority 4.5. SIP audio will interrupt multicast streams with priority 0 through 4 and will be interrupted by multicast streams with priority 5 through 9.

During priority 9 multicast streams, the analog volume control is bypassed and the volume level is set to maximum.

⚠️ **Note** SIP calls, buffered SIP calls, multicast streams, buffered multicast streams, ring tones, ringback tones, and nightring tones are all prioritized.

Ringtones all play at the same priority level. This means that it is possible to have a nightring tone and a normal ringtone playing at the same time.

The maximum buffer duration is 2 MB or about four minutes of ulaw audio

Enable Multicast operation: Checked

Address: Enter the IP address of the Multicast Group.

- **Note**: To disable a relay on a group, use an IP address of 0.0.0.0.

Port: Enter the port number of the Multicast Group.

- **Note**: The port range can be from 2000 to 65534 and must be even.

Name: Enter a name for the Multicast Group.

Multicast Configuration

Enable Multicast operation: ☑

Device Settings

priority	Address	port	Multicast Group Name	Buffered
9	234.2.1.1	10002	all	
8	239.168.3.9	10000	MG8	☐
7	239.168.3.8	9000	MG7	☐
6	239.168.3.7	8000	MG6	☐
5	239.168.3.6	7000	MG5	☐

SIP calls are considered priority 4.5

4	239.168.3.5	6000	MG4	☐
3	239.168.3.4	5000	MG3	☐
2	239.168.3.3	4000	MG2	☐
1	239.168.3.2	3000	MG1	☐
0	239.168.3.1	2000	Background Music	☐

Buffered: Optional, if checked the CyberData SIP Speaker will buffer the page, and once the buffer is full, or the call is disconnected, it will make the page. The maximum buffer duration is 2 MB or about four minutes of ulaw audio.

Save Click on the Save button to save your configuration settings.

⚠️ **Note**: You need to reboot for changes to take effect.

Reboot Click on the Reboot button to reboot the system.

8.6 Audio Configuration

CyberData SIP Paging Speaker allows you replace all the prompts used by the Paging Speaker with your own custom paging prompts. Custom prompts must be saved as

```
WAVE audio, Microsoft PCM, 16 bit, mono 8000 Hz
```

Zultys Technical Support can provide prompts matching the Zultys voice prompts upon request.

Custom files may be uploaded for all prompts played by the CyberData SIP Paging Speaker

Save Click on the Save button to save your configuration settings.

⚠️ **Note**: You need to reboot for changes to take effect.

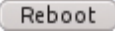Reboot Click on the Reboot button to
reboot the system.

9 Configuration for ZIP5 devices

An Administrator can use the following parameters in the Advanced Tab of the device profile to create Paging Groups or Zones.

For incoming RTP multicasts, the ringing display is dependent on the "Allow Barge-In" parameter. If this parameter is disabled, and there is no other call on the phone, then the paging is automatically played via the preferred audio device (see the model-specific IP Phone User Guide for setting Audio Mode on the phone).

If there is an existing call on the phone, the call initially displays in the ringing state. The user has the option to accept/ignore the call. If the "Allow Barge-In" parameter is enabled, the RTP multicast call barges in, and any existing calls are put on hold.

If an RTP multicast session already exists on the phone, and the phone receives another incoming RTP multicast session, the priority is given to the first multicast session and the second multicast session is ignored. The behavior for the incoming calls in this case is also based on the setting for the "Allow Barge-in" parameter. The incoming call is handled as if there were an existing call already on the phone.

9.1 Phone Configuration from the Advance Tab of the ZIP5 profile

The Key can be any programmable key on a ZIP5 including

- softkeyN type
- topsoftkeyN type
- prgkeyN type
- expmodX keyN type

- **KeyN value:** is the multicast IP and port you will be paging
- **KeyN Label**: Is the LCD label assigned to this key (if available)
- **KeyN Type**: is always paging
- **KeyN Locked**: optional, for locking changes to the key from web interface
- **paging group listening**: Allows you to specify up to 5 listening multicast addresses to send/receive a Real Time Transport Protocol (RTP) stream to/from these pre-configured multicast address(es). Each multicast IP and port combination is separated by a comma.

9.1.1   Example 1 (57i)

In the below example we are creating a single page zone which this phone can send pages to, and receive pages from. The phone in this example is a 57i phone and the upper left key is the paging key.

```
topsoftkey1 value : 234.2.1.1:10002
topsoftkey1 label : Page
topsoftkey1 type : paging
topsoftkey1 locked : 0
paging group listening : 234.2.1.1:10002
```

9.1.2   Example 2 (53e)

In the below example we are creating a single page zone which this phone can send pages to, and receive pages from. The phone in this example is a 53e phone and the upper left key is the paging key. This device will listen to 2 different paging groups as defined in the paging group listening entry.

```
prgkey5 value : 234.2.1.1:10002
prgkey5 type : paging
prgkey5 locked : 0
paging group listening : 234.2.1.1:10002, 234.2.1.2:10004
```

9.2 Multiple Zones or Groups

If using multiple page groups or zones, for proper integration with ZIP3 devices you must assign a unique IP address and unique port for each zone.

To configure the device to listen to multiple paging groups, add each additional unique IP and port pair to the "`page group listening :`" entry separated by a comma.

10 Configuration for ZIP3 Devices

You can configure a specific key on the phone from MX Administrator that will allow you to send or receive a page to or from pre-configured multicast address(es). The ZIP3 may listen to up to 10 different page groups.

10.1 To Listen for Multicast paging

In MX Administrator Navigate to the ZIP3 profile and select the Advanced tab of the device profile to enable the ZIP3xi to listen to a Multicast page. Add the following lines to the advanced tab:

10.1.1   ZIP33i, 35i and 37G
```
[ cfg:/phone/config/vpPhone/MulticastPage.cfg,reboot=0 ]
ListenAddress1.Label = Page_MC
ListenAddress1.IPAddress = 234.2.1.1:10002
ReceivePriority.Active = 1
ReceivePriority.Priority = 0
```

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10.1.2 ZIP36G

```
ListenAddress1.Label = Cyber_MC
multicast.listen_address.1.label = Cyber_MC
multicast.listen_address.1.ip_address = 234.2.1.1:10002
multicast.receive_priority.enable =1
multicast.receive_priority.priority = 0
```

10.2 Configuring Page Button

In MX Administrator Navigate to the ZIP3 profile and select the Advanced tab of the device profile to enable the ZIP3xi to make a Multicast page. Add the following lines to the Advanced tab. In the below example, the "Page" key is the 6th key (or the last/bottom key).

10.2.1 ZIP33i, 35i and 37G

```
[ cfg:/phone/config/vpPhone/vpPhone.ini,reboot=1 ]
memory6.DKtype = 24
memory6.Line = 0
memory6.Value = 234.2.1.1:10002
memory6.PickupValue =
```

10.2.2 ZIP36G

```
linekey.6.type = 24
linekey.6.line = 0
linekey.6.value = 234.2.1.1:10002
linekey.6.pickup_value =
```

10.3 Multiple Zones or Groups

Each new zone or group requires a unique IP address and Port. If you use the same port for all zones but a unique IP paging will not work.

To add multiple listening groups, change the N value to a value between 1 and 10, and assign a unique IP and port for each page group.

```
ListenAddressN.Label = Page_MC
ListenAddressN.IPAddress = [Unique IP]:[Unique Port]
```

11 MXNetwork Integration

11.1 Paging Between Nodes

Integrating the CyberData SIP Paging Speaker with MXNetwork allows for quick and easy integration of paging between the nodes. Use of the CyberData SIP Paging Speaker allows the users to dial the extension of the CyberData SIP Paging Speaker at the remote node to use the CyberData SIP Paging Speaker's Multicast capability to page users local to the CyberData SIP Paging Speaker.

11.1.1 Paging Between Nodes Using CyberData Paging Extension

When using the CyberData SIP Paging Speaker with MXNetwork, the remote nodes (nodes that the CyberData Paging Speaker is NOT registered on) may call the SIP Paging Extension number directly.

11.1.2 Paging Between Nodes Using MX Page Server

The paging system needs to be designed in such a way that any node may page users on any other node. The MXnetwork is connected via a fully functional VPN network. Each node is running 6.0.10+ firmware, and the users are using ZIP2x2 phones using 1.2.30 firmware, Polycom Phones running 3.2.x firmware, and ZIP5 phones running 3.2.2.x firmware.

The user will dial an access/routing code to be routed to the appropriate node in the MXnetwork, with the appropriate page group ID. (Example: *5101) The page server on that MX Node will require the users voicemail password/PIN number to complete the page. For more details see MXNetwork Documentation available from Zultys Technical Support.

11.2 Failover Situation

In a failover situation users will have to dial the extension of the CyberData Speaker itself, as Paging Information is not included in the fail over process currently.